

WHAT IS CLAIMED IS:

1. An isolated DNA encoding a *Thermus sp.* plasmid replication protein, said isolated DNA comprising the sequence of SEQ ID NO:4 or conservatively modified variants thereof.

Sub 2 → 2. A recombinant plasmid comprising at least one *Thermus sp.* replication origin, wherein said replication origin includes the isolated DNA sequence of claim 1.

3. The recombinant plasmid of claim 2, further comprising at least one promoter sequence selected from the group consisting of the DNA sequence of SEQ ID NO:6, residues 27-32 of SEQ ID NO:6, residues 50-55 of SEQ ID NO:6, residues 86-90 of SEQ ID NO:6, and residues 109-114 of SEQ ID NO:6.

4. An *E. coli sp.* host cell transformed with the recombinant plasmid of claims 2 or 3.

5. A *Thermus sp.* host cell transformed with the recombinant plasmid of claims 2 or 3.

Sub 3 → 6. An isolated DNA encoding a *Thermus sp.* promoter, wherein said isolated DNA is selected from the group consisting of the DNA sequence of SEQ ID NO:6, residues 27-32 of SEQ ID NO:6, residues 50-55 of SEQ ID NO:6, residues 86-90 of SEQ ID NO:6, and residues 109-114 of SEQ ID NO:6.

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host cell under conditions suitable for the expression of said recombinant plasmid;

(d) isolating cloned recombinant plasmid from said cells; and

(e) transforming a *Thermus sp.* host cell with said cloned recombinant plasmid from step(d) and culturing said *Thermus sp.* host cell under conditions suitable for the expression of said recombinant plasmid.

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